

US EPA ARCHIVE DOCUMENT

United States Coast Guard



Viscous Oil Pumping System (VOPS)

Background

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M/V KUROSHIMA



M/V NEW CARISSA

Partnership

- U.S. Coast Guard
- U.S. Navy Supervisor of Salvage
- Private Industry
- International



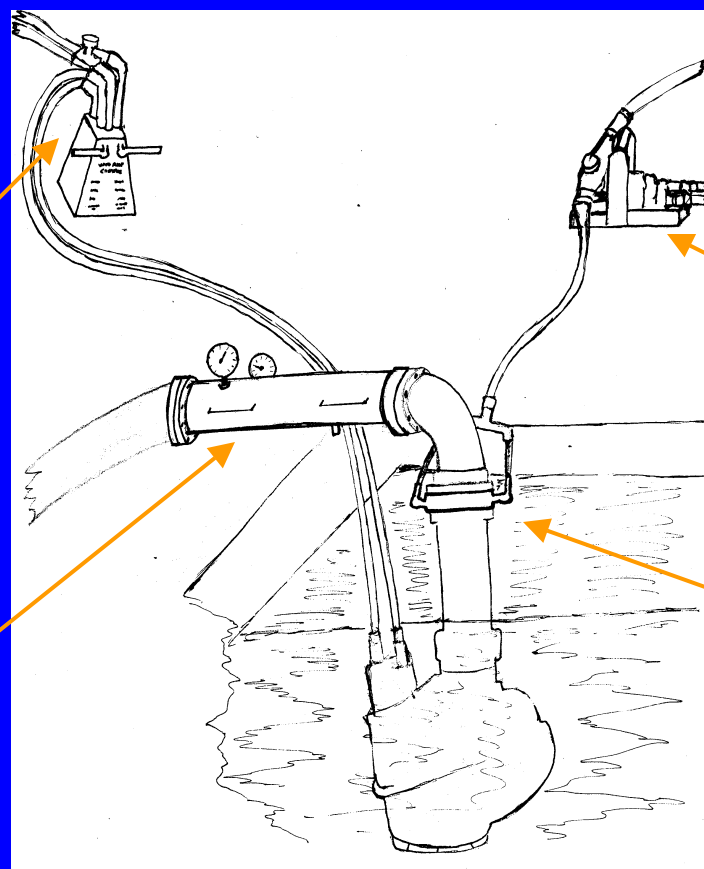
Key Components

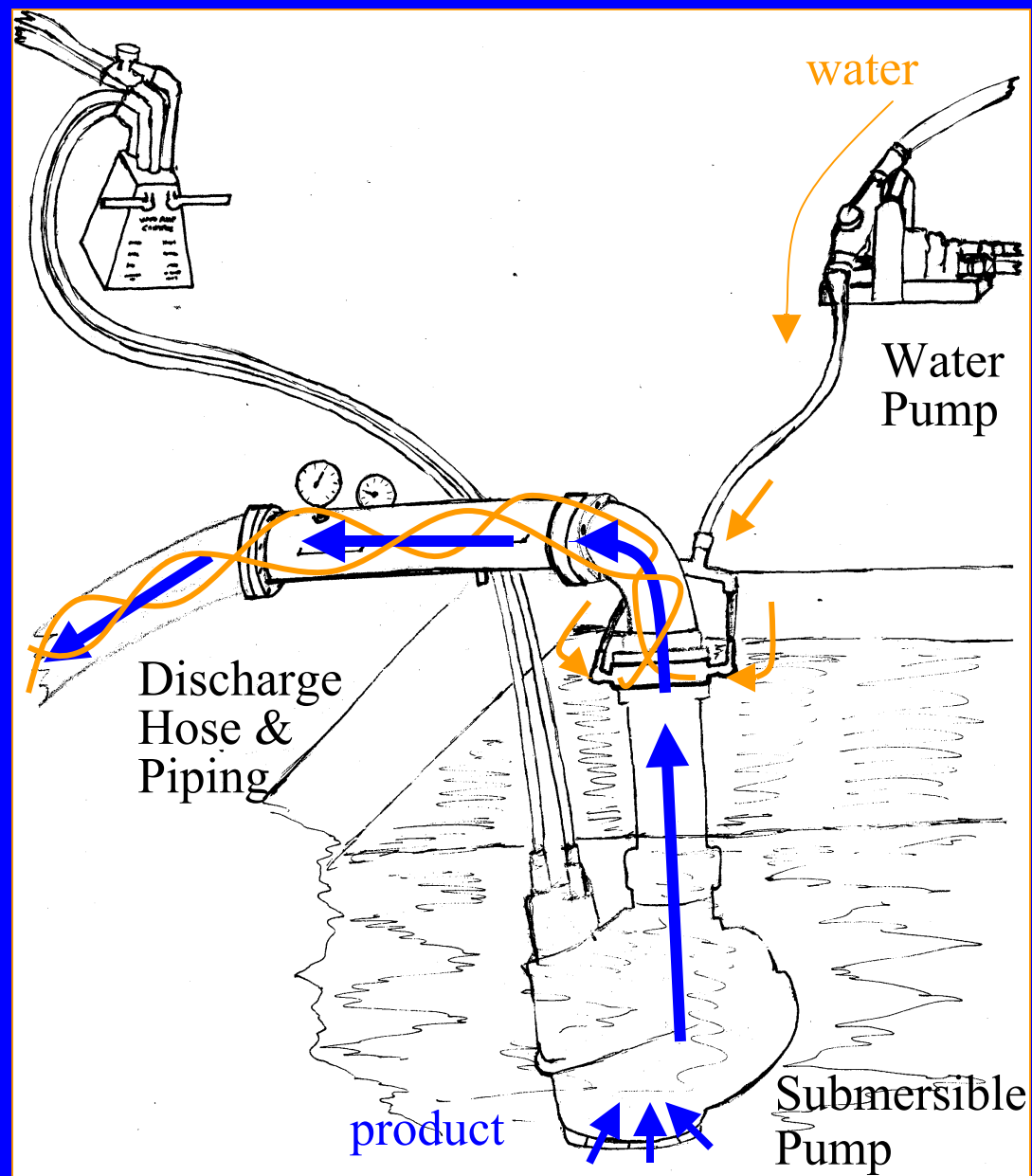
Control Stand

Water Injection Pump

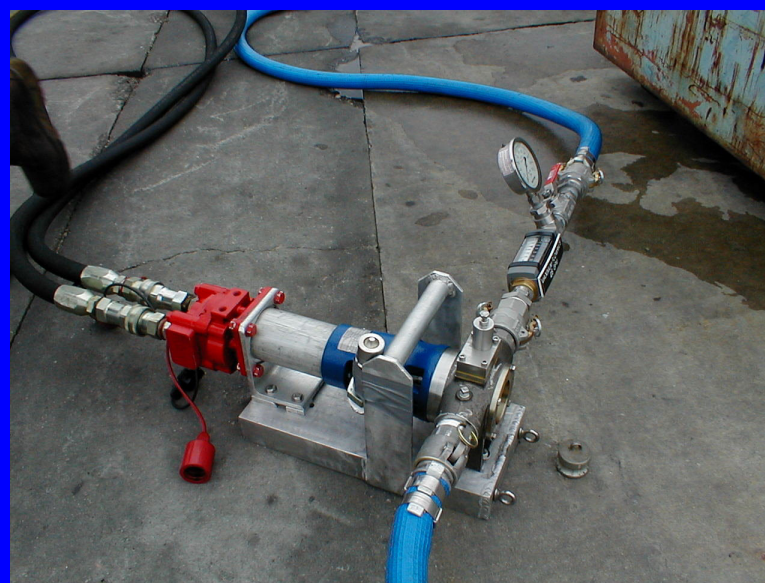
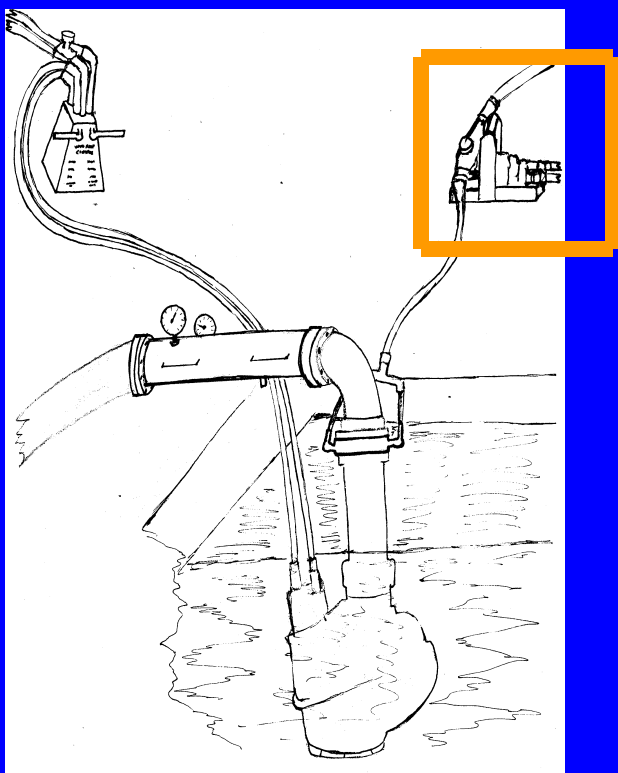
Product Monitoring Pipe

Annular Water Injection Flange



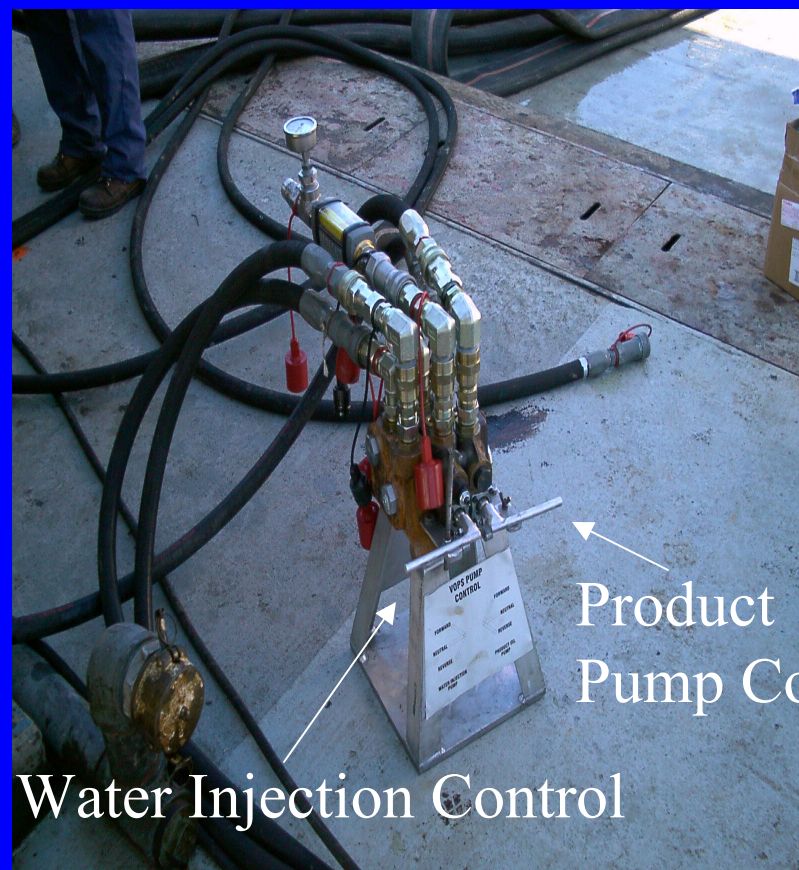
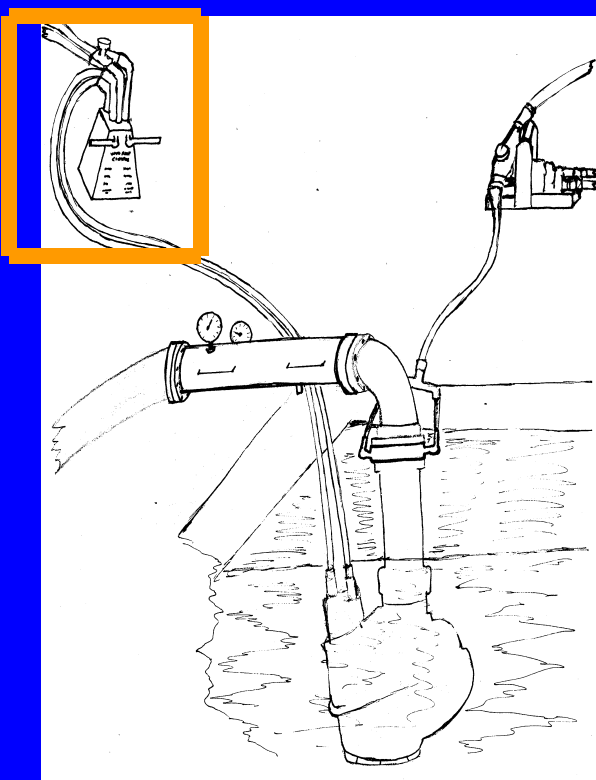


Water Injection Pump



Rotan Gear Pump

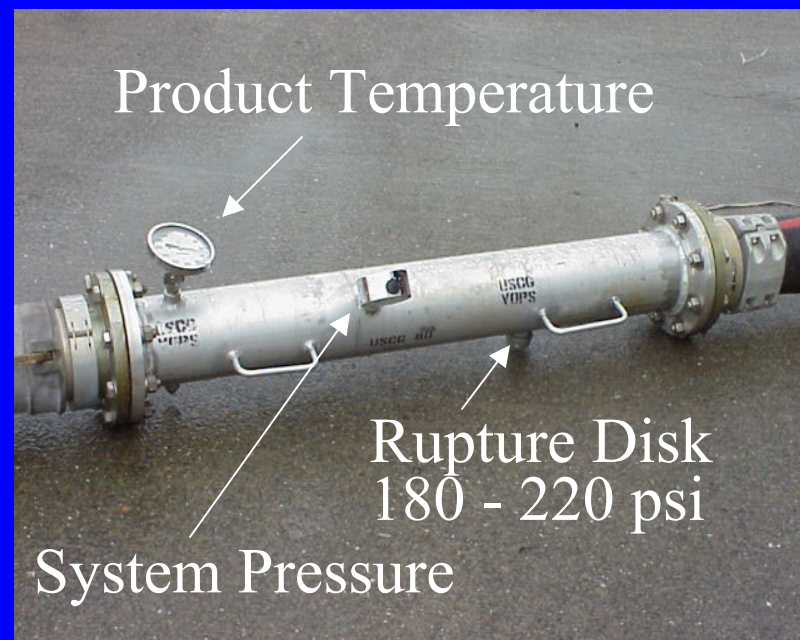
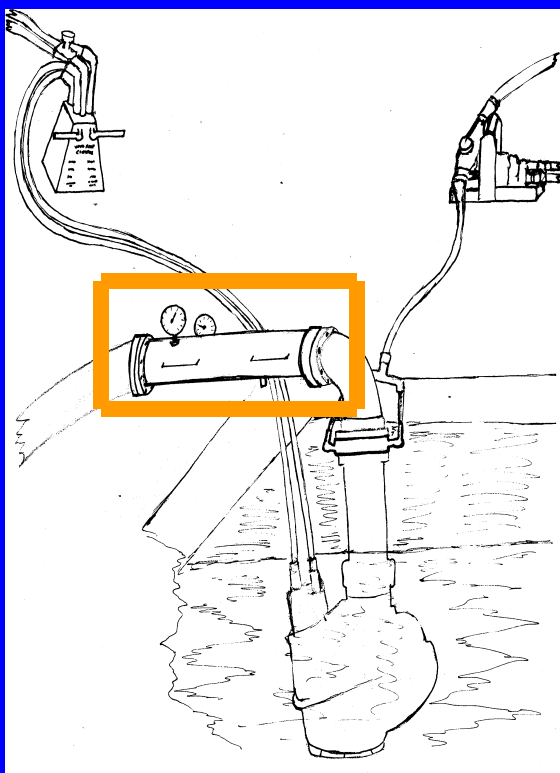
Control Stand



Water Injection Control

Product
Pump Control

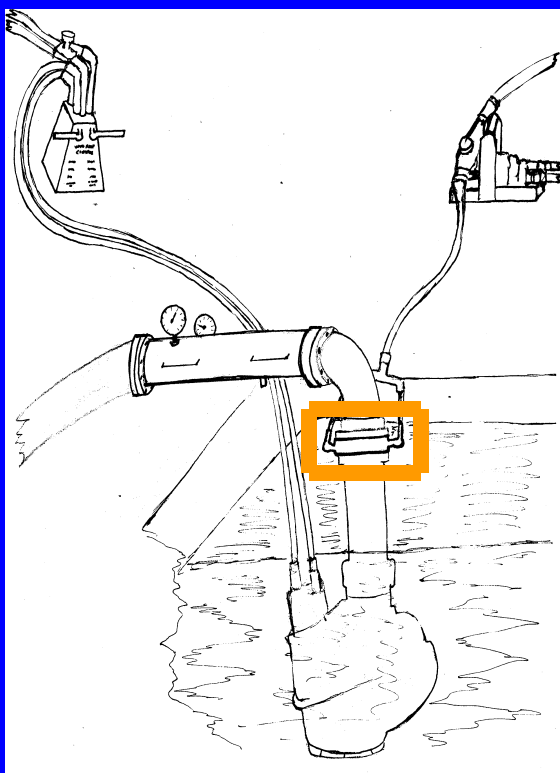
Product Monitoring Pipe



Product Piping with Installed Gages and Sampling Port



Annular Water Injection Flange



Removable Ring for
easy Cleaning

Water Injection Flange



Results

- Reduces head pressure.
- Push viscous oil greater distances.
- The three USCG Strike Teams have the VOPS in inventory.

USCG Viscous Oil Pumps



DOP-250 Pump with AWI Flange



DOP-160 Pump

VOPS Tested at OHMSETT



Hydra-search
Fitting



400 meters of 6" hose
30,000 cst oil

VOPS Tested at Alaska Clean Seas, Prudhoe Bay, AK



Approx. 50,000 cst oil



100 cu.m/hr

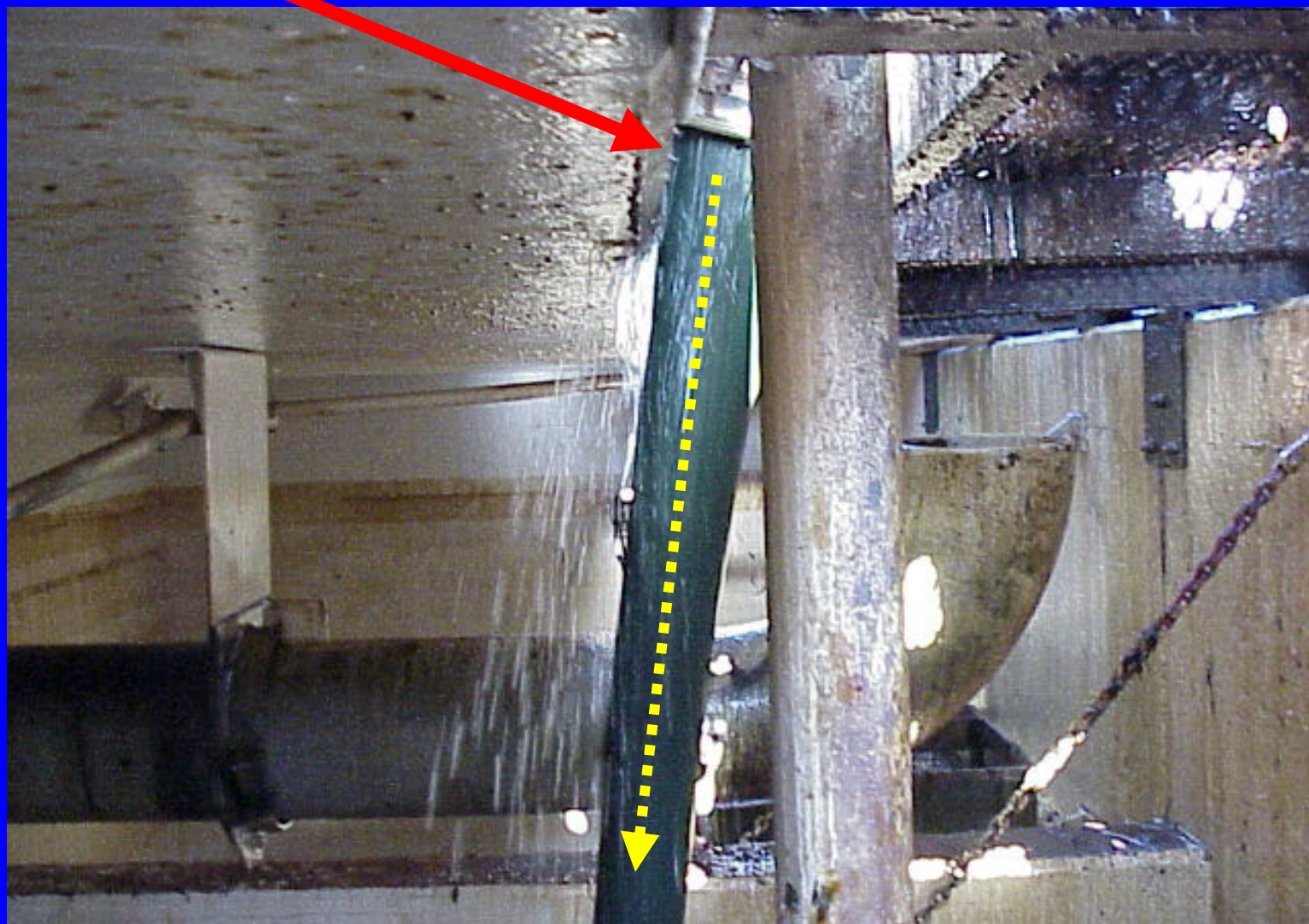
With Water Injection

Future Plans



- Continue Partnership
- Testing / Exercises
- Develop Uniform Job Aids
- Actual Response Use

Water and oil discharging out of 6"
lay flat hose at 800'



Questions?

